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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/532,396

04/22/2005

Toru Sasaki

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EXAMINER

LEE, PING

ART UNIT

PAPER NUMBER

2615

MAIL DATE

DELIVERY MODE

09/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/532,396	Applicant(s) SASAKI, TORU	
	Examiner Ping Lee	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP3-106298 (hereafter JP '298) in view of Parker (US 2,632,055) and Yanagawa et al (hereafter Yanagawa) (US 5,953,432).

Regarding claims 1, 2, 7 and 11, JP '298 discloses an array speaker apparatus in Figs.1b and 2. As shown in Fig. 1a, a projection screen (14) is located in front of the array speaker apparatus. The array has a plurality of speaker units each operable to provide sound waves. JP '298 discloses the claimed invention with the exception of (1) a frame, (2) a plurality of cabinets within the frame, so each cabinet is substantially enclosed on all but one side, and (3) means for causing the sound waves to generate sound in three different directions.

The second difference would be discussed first. JP '298 teaches a speaker array with different cabinet design for the speakers in the array. As shown in Fig. 1b, speaker 12b has an open back, while speaker 12a has a closed back (this is the same design as the claimed cabinet). The cabinets as shown in JP '298 were one type of cabinet design for housing the speakers. One skilled in the art would have recognized that there were several different kinds of cabinet designs available. Parker teaches how to use relative small speakers each enclosed in a small cabinet to provide smooth low frequency response. As shown in Fig. 3 or 4 of Parker, this is a closed-back design to

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allow the sound to be reproduced in forward direction only. Since Parker's system uses small speakers, the system would fit well with the projection screen in JP '298. Thus, it would have been obvious to one of ordinary skill in the art to modify JP '298 by using the speaker cabinet design as taught in Parker in order to improve the low frequency response.

Regarding the frame, the purpose of the frame is to enclose all small cabinets together for easier assembly and additional protection. It does not alter the sound quality generated from the array. Thus, it would have been obvious to one of ordinary skill in the art to modify JP '298 and Parker by using a frame to enclose all cabinets in order to provide a single piece of device to be coupled to the screen.

Regarding the third difference, JP '298 teaches a general speaker array to be coupled to a screen without specifying the particular type of sound generating circuit to generate the sound to be applied to the array. One skilled in the art would have expected that any well known sound generating circuit, including a circuit that causes the sound generated having three different directions, could be used without generating any unexpected result. Yanagawa teaches a sound generating circuit for a speaker array. As shown in Fig. 3, the array would generate sound in three different directions such that a main axis of directivity of the sound waves from one or more of the speaker units associated with a first channel is in a first direction, the main axis of directivity of the sound waves from one or more of the speaker units associated with a second channel is in a second direction which is different from the first direction, and the main axis of directivity of the sound waves from one or more of the speaker units associated

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with a third channel is in a third direction which is different from the first direction and the second direction (col. 3, lines 32-48). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention was made with all three references before him/her to incorporate the sound generating circuit as taught in Yanagawa for controlling the sound signal to be applied to the array in order to simulate the sound effect.

Regarding claims 3-6, the claimed buffer materials read on the air between the screen (14) and the opening portion of the cabinets.

Regarding claim 8, Yanagawa shows the sound generating circuit including power amplifiers (24s).

Regarding claim 9, as shown in Fig. 3, Yanagawa shows the left channel, the right channel and the center channel.

5. Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over patent '298 in view of Parker as applied to claim 1 above, and further in view of JP 5-199576 A (hereafter '576).

Regarding claim 10, Yanagawa teaches that the sound generating circuit is able to adjust the main axis of directivity (see abstract).

Response to Arguments

3. Applicant's arguments with respect to claims 1 and 11 have been considered but are moot in view of the new ground(s) of rejection.

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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 571-272-7522.

The examiner can normally be reached on Monday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ping Lee/
Primary Examiner, Art Unit 2615

pwl